

Thick Plate X 8" Wde: MATERIAL: 7075-15162 ALUMINUM SHEET AS PER QQ-A- 250/12 OR AMS-QQ-A- 250/12 OR AMS-QQ-A- 250/12 OR AMS-QQ-A- 250/12 OR AMS-DQ-A- 250/12 OR ASTM B209 receive ft  2 M707516S2.000X7.000 7075-16S 63 63 S090188 Stock 7/6/2018 \$83.07 / ft 5 \$5,191.88 N	PO No	Supplier	Item No	Rel No	Terms	Purchased Item	Description	For Part No	Project	Equipment ID	Order Qty	Due Date	Received Quantity	Accounting Job No	Container No	Status	Receive Date	Price/Unit	Aging Days	Past Due	Total	Supplie
2 M7075T6S2.000X7.000 7075-T6S Sheet 7" Thick Plate X 2"" Wide (Order In Billets - 13.375"): MATERIAL: 7075-T6/T62 ALUMINUM SHEET AS PER QQ-A-250/12 OR AMS-QQ-A-250/12 OR			ţ	1	Net 30		Sheet .375" Thick Plate X 8" Wide: MATERIAL: 7075-T6/T62 ALUMINUM SHEET AS PER QQ-A- 250/12 OR AMS-QQ-A- 250/12 OR AMS 4045 OR ASTM B209				24	7/9/2018	24		S090187	Stock	7/6/2018	\$26.79 / ft	5		\$642.96	Metaux Castle
ASTM B209 receive ft			2			M7075T6S2.000X7.000	7075-T6S Sheet 7" Thick Plate X 2" Wide (Order In Billiets - 13.375"): MATERIAL: 7075-T6:T62 ALUMINUM SHEET AS PER QQ-A- 250/12 OR AMS 4045 OR AMS 4045 OR		•		63		63		S090188	Stock	7/6/2018	\$ 83.07 / ft	5		\$5,191.88	Metaux Castle

Plex 7/11/2018 8:57 AM Dart.Baker.Diane

# INTERORG TRANSFER PACKING SLIP/ CERTIFICATE OF CONFORMANCE

Page 1 of 2

Shipment No:3634002

A. M. CASTLE & CO. 4175 ROYAL DRIVE SUITE 1270	DART AFROSPACE I TO	.0.	Deliver 10:
	1270 ABERDEEN HAWKESBURY, ON K6A 1K7 CA	A. M. CASTLE & CO. 2150 ARGENTIA ROAD MISSISSAUGA, ON L5N 2K7 CAN	DART AEROSPACE LTD 1270 ABERDEEN HAWKESBURY, ON K6A 1K7 CA
Date Shipped F.O.B.	Freight Terms	Carrier	BOI No
27-JUN-18 ORIGIN	Prepaid	XPO LOGISTICS FREIGHT	

Final Destination Branch - TOR

Shipment Details

Order No	Line No	Item No	Description			
5175856	2	750616.MO	2.0000.PL.7075.T6 CUT RECTANGLE ALONG 13.375")) X ALONG 13.375")) AMS-QQ-A-250/12	2.0000.PL.7075.T651.ALUMINUM.USI.48.5000.144.5000 CUT RECTANGLE TO 7 IN ( + .0310/0000 IN (GRAIN TO RUN ALONG 13.375")) X 13.375 IN ( + .0310/0000 IN (GRAIN TO RUN ALONG 13.375")) - ALUMINUM PLATE SAW SPECIFICATIONS: AMS-QQ-A-250/12	18.5000.144.500 0000 IN (GRAIN 70000 IN (GRAIN E SAW SPECIFI	0 V TO RUN AIN TO RUN CATIONS:
Purchase Order No		Part Number	Ordered Qtv		Invoice Otv	
40242			56.00 PCS		56.00 PCS	
Details	ALL PAPE ALL MATE	ALL PAPERWORK MUST FOLLOW ORDER / CUSTOMER MUST RECEIVE AT TIME OF DELIVERY ALL MATERIAL MUST HAVE IDENTIFYING MARKINGS EX:HEAT #'S	PADER / CUSTOMER IN PAING MARKINGS EX	NUST RECEIVE AT 1	TIME OF DELIVE	ERY
	EMAI P/s (END USEF	Email P/s and certs to: clavoie@dartaero.com END USER: DART AEROSPACE	ero.com DADTS			
Delivery No.	Mill/Source	Heat Number	Mech Id PCS	Width (IN) Length (IN)		Shinned Ott/(1 BC)
121915821	KAISER ALUMINUM	786980A3				64 64
121915821	CONSTELLIUM ROLLED PRODUCTS	9 4 1 0 4 2 8	54		1043	1043.7220

# CERTIFICATE OF CONFORMANCE INTERORG TRANSFER PACKING SLIP/

Page 2 of 2

These items are controlled by the U.S. Government and authorized for export only to the country of ultimate destination for use by the ultimate consignee or end-user(s), either in their original form or after being incorporated into other items, without first oblaming approval from the U.S. Government or as otherwise authorized by U.S. law and regulations.

We hereby certify the material covered by this certification conforms in accordance with the above specifications and has been found to meet the applicable requirements for the material, including any specifications forming a part of the description. Test reports are on file subject to examination. All claims for defective material are waived unless made in writing to A.M. Castle & Co. within 60 days of the shipment. Material cut to the correct size, or material cut by the customer cannot be returned. Reviewed by Authorized Castle Metals Representative

Name: Date:

Date Printed: 27-JUN-2018 01:02:53 PM



Dart Aerospace Ltd. 1270 Aberdeen St Hawkesbury, ON K6A 1K7 Canada

Tel (613) 632-5200

# **PURCHASE ORDER** PO040242

Supplier: MEC002-VU

Metaux Castle

P.O. Box 4090 Stn A

Toronto

ON

M5W OE9 Canada

PO No:

PO040242

PO Date:

6/19/18

Due Date:

7/5/18

Purchase Order

Revision:

**Revision Date:** 

Ship-To Contact:

Lavoie, ChantalPhone:

clavoie@dartaero.com

Ship To:

1270 Aberdeen Street

Hawkesbury

ON

K6A 1K7 Canada

Phone: 613-632-5200

Via:

Ground

**Pymt Terms:** 

Net 30

Freight Terms:

**Special Comments:** 

Line			Supplier			Due	Order	Received		Unit	Extended
Item	Job			Description	Status		Quantity	Quantity	Balance	Price (USD)	Price
1		M7075T6S0.375X8.000		7075-T6S Sheet .375" Thick Plate X 8" Wide : MATERIAL: 7075- T6/T62 ALUMINUM SHEET AS PER QQ-A- 250/12 OR AMS-QQ-A- 250/12 OR AMS 4045 OR ASTM B209 receive ft	Firmed	7/5/18	24 ft	2414	24 ft	\$26.79/ft A118/57	
2		M7075T6S7.000X2.000	A Transport of the Control of the Co	7075-T6S Sheet 7" Thick Plate X 2" Wide (Order In Billets - 13.375") : MATERIAL: 7075- T6/T62 ALUMINUM SHEET AS PER QQ-A- 250/12 OR AMS-QQ-A- 250/12 OR AMS-QQ-A- 250/12 OR AMS 4045 OR ASTM B209 receive ft	Firmed	7/5/18	62.5 ft.	61.5H	63 ft	\$83.07/ft AT (8/3	

Plex 6/19/18 8:37 AM dart.lavoie.chantal

				Ite	ems						
Line Item	Job	Part	Supplier Part No		Status	Due Date	Order Quantity	Received Quantity	Balance	Unit Price (USD)	Extende
ine Item No	te note: 56	ocs cut at 13.37	5" = 62.500 ft							Grand Total:	\$5 R2A

#### **Order Notes**

**Procurement Quality Clauses** 

A005 right of entry

A012 chemical and physical test report

A016 personnel qualification

A017 raw material identification (as applicable)

A026 certification of material conformance

A041 quality management system

A042 dart notification by supplier

A043 retention of quality documents

A048 counterfeit parts avoidance, detection, mitigation and disposition program

A049 supplier awareness

Terms & Condition of Purchasing(Suppliers) and Procurement Quality Clauses are an integral part of our AS9100 requirements. To learn in detail, please visit www.dartaerospace.com for further explanation.

Plex 6/19/18 8:37 AM dart.lavoie.chantal

SHIP TO:

A M CASTLE & CO 14001 ORANGE AVE P.O. BOX 1402 PARAMOUNT, CA 90723

SOLD TO:

AM CASTLE & CO- SOLD TO 1420 KENSINGTON RD SUITE 220 OAK BROOK, IL 60523



Trentwood Works - Spokane, WA 99215 Phone: (800) 367-2586

# CERTIFIED TEST REPORT

Serial Number 4420463

378798	ER:	7.			TOMER PA	RT NUMBER.	1	SHIP RUNILOAD: GOVT C		GOVT C	ONTRACT NUMBER:		
KAISER ORDER NO: LINE IT!		EM: SHIP DATE: 30-MAY-201		1	VO75	CLAD: BARE					escription: ect Plate		
WEIGHT SHIPPED: 4334 LB	3 PCS		. TRUCH		#:	GAUGE: 2.0000 I	N 50 8000 M		DIAMETERAVIO 48.500 IN (123	TH:	LENGTH: 144.500 IN	(3670 3 MM	

MHU 2000977: LOT 786980A3: 3 pieces;

### Certified Specifications

AMS 4045/RevK ASTM B 209/Rev14 BSS 7055/RevB DPS 4.713/RevAK PS 21211/RevP

AMS-QQ-A-250/12/RevA ASTM 8 594/Rev 13 CMMP 025/RevU GAMPS 9101/RevB/AmdSCN1

AMS-STD-2154/RevA BAC 5439/RevJ CSTI 006/RevE GSS16100/RevG/Amd1

Test Code: 1512

**Test Results** 

Lot. 786980A3

Cast 189

Drop 37

Ingot 4

Parent Lot: 173937B4 Melted in USA

(ASTM E8/B557) (EN 2002-1)

Tensile:

Temper T651

Dir / # Tests

LT / 2 (Min:Max)

Ultimate KSI (MPA) 82.0:82.2

Yield KSI (MPA)

Elongation %

(565:567)

72.3:72.7 (499:501) 11.7:11.7

(ASTM E1251)

Chemistry:

SI Actual(wt%) 0.08

FE 0.18

CU 1.6

MN 0.02

MG CR 2.5 0.19

ZN 6.0

TI 0.03

ZR 0.01 0.02

OTHER TOT 0.05





# CERTIFIED TEST REPORT

Serial Number 4420463

Trentwood Works - Spokane, WA 99215 Phone: (800) 367-2586

#### ALLOY LIMITS

7075	Si	FE	CU	MN	MG	CR	ZN	TI	V	ZR	OTHER	MAX
MIN(wt%)	0.00	0.00	1.2	0.00	2.1	0.18	5.1	0.00	0.00	0.00	EACH	0.05
MAX(wt%)	0.40	0.50	2.0	0.30	2.9	0.28	6.1	0.20	0.05	0.05	TOT	0.15
				Alu	minum A	emainder						

ORDER COMMENTS AMC CA 15403A R 7

#### TEST NOTES

Metal represented by this teat report was 100% Type I (immersion) ultrasonically tested from one side with Jum dead zones top and bottom and mests the Class A and Class B requirements of all specifications referenced on this test report. No surface marking of sonic indications is performed

#### CERTIFICATION

Ease! Alumnium Estimated Products, EEC (Kaiser), is ISD 3001-2008/ASS100C cost tool and permy requires that the major is imported under the model:

\* has been inapacted, tosted, and found to be in conformance with the requirements of the apacition and chains a permy requirement of the apacition and chains out the concess out aids scentification limits, mechanical progetties are as shown berein and chains all composition in meets acaptication requirements.

\* was malted in the United States of Amarica or a qualifying country per DEARS 225.3721 (i.e., was manufactured in the united States of America and regels the requirements of DEARS 225.3721 (i.e., was manufactured in the united States of America and regels the requirements of DEARS 225.3721 (i.e., was manufactured in the united States of America and Regels the requirements of DEARS 225.3721 (i.e., was manufactured in the united States of America and Regels the requirements of DEARS 225.3721 (i.e., was manufactured in the united States of America and Regels the Regels

\* As melted in the United States of America or a qualifying country per peaker 2.25 or Ent. 1. Was insolvant this price and the restaurance of the peaker and the restaurance of the restaurance of the peaker and the restaurance of the restaurance of the peaker and the restaurance of the restaurance





# Constellium Rolled Products Ravenswood, LLC

9 H - P T O

A M CASTLE & COMPANY

4175 ROYAL DRIVE KENNESAW GA 30144 US S 0 L D T 0

A M CASTLE

1420 KENSINGTON ROAD, SUITE 220 OAK BROOK IL 60523 US

Serial:20180203-0110620768 A M CASTLE 110620768 4075 INCLUSION Pg 1of2 CUSTOMER PURCHASE ORDER NO. & ITEM Constellium ORDER NO. CERTIFICATION 227660 447822 "Constallium Rollad Products, hereby cartifies that metal shipped under this order has been inspected and found in conformance with the ALLOY CLAD TEMPER GAUGE WIDTH LENGTH requirements of the applicable specifications as 48.50000 in 1,232 mm 144.50000 in 3.670 mm T65 2.00000 in 7075 indicated herein. Any warranty is limited to that 50.80 mm shown on Constellium Rolled Products' standard General Terms and Conditions of Sales. Test ITEM ORDERED reports are on file, subject to examination." SPEC PLATE, SAWED Constellium Rolled Products Ravenswood, LLC MILL FINISH 859 Century Road P.O. BOX 68 CUSTOMER SPECIFICATION RAVENSWOOD, WV 26164 USA AMS QQ-A-250/12 PART NUMBER B/L NUMBER DATE SHIPPED 94221 02/04/2018 750616 WT. SHIPPED NO. OF PIECES GOVT, CONTRACT NO. 4260 000 LB Dave Dunberger - Laboratory Manager

ALL LOTS ON THIS CERTIFICATION ALSO CONFORM TO THE FOLLOWING REQUIREMENTS:

ASTM B594 REV 13 2013 100% SONIC W/ 0.125"DEADZONE Class A

AMS 4045K AMS-STD-2154A 2012 TYPE1 CLASS A 100% SONIC MINUS DEADZONE

ASTM B209-14

BSS-7055B 2013 CLASS A 100% SONIC TESTED MINUS DEADZONE CSTI006 REV E 2011 CLASS A 100% SONIC MINUS DEADZONE DPS 4.713 REV AK 2012 CLASS A 100% SONIC MINUS DEADZONE GAMPS 9101 REV B 2006 CLASS A 100% SONIC MINUS DEADZONE PS 21211P 2010 CLASS A 100% SONIC MINUS DEADZONE

#### Load Details

Package	Net Lbs	Kg	Lot	Piece	Serial	Parent Lot
1001698698	1,420.000	644.101	9410428	01		
1001698698	1,420,000	644.101	9410428	02		
1001698698	1,420,000	644.101	9410428	03		

# Lot: 9410428 See test results below)

#### Tensile - Room Temperature (US)

		Ultimate	(KSI)	Yield (K	(SI)	Elongatio	n (%)	Report
Direction	Tests	Min	Max	Min	Max	Min	Max	
LT	02	80.7	81.1	70.7	72.1	13.0	13.0	

P-860-155D REVISED: 01 2018





INCLUSION

227660

GOVT, CONTRACT NO.

WIDTH

48.50000 in

1.232 mm

Constellium ORDER NO.

LENGTH

3 670 mm

144 50000 in

# Constellium Rolled Products Ravenswood, LLC

A M CASTLE & COMPANY 5 H 4175 ROYAL DRIVE KENNESAW GA P 30144 US 0 A M CASTLE 110620768 4075 CUSTOMER PURCHASE ORDER NO. & ITEM 447822 ALLOY CLAD TEMPER GAUGE 7075 T651 2,00000 in 50 80 mm ITEM ORDERED SPEC PLATE, SAWED MILL FINISH CUSTOMER SPECIFICATION AMS QQ-A-250/12A

80 LD TO

A M CASTLE

Serial, 20180203-0110620768

1420 KENSINGTON ROAD, SUITE 220 OAK BROOK IL 60523 US

Pg 2of2

CERTIFICATION

"Constellium Rolled Products, hereby certifies that metal shipped under this order has been inspected and found in conformance with the requirements of the applicable specifications as indicated herein. Any warranty is limited to that shown on Constellium Rolled Products' standard General Terms and Conditions of Sales. Test reports are on file, subject to examination." Constellium Rolled Products Ravenswood, LLC 859 Century Road

P.O. BOX 68 RAVENSWOOD, WV 26164 USA

Hand Montage

Dave Dunbarger - Laboratory Manager

Tensile - Room Temperature (SI)

	,	Ultimate	(N/MM2)	Yield (N	VMM2)	Elongation	on (%)	Report
Direction	Tests	Min	Max	Min	Max	Min	Max	
LT	02	556	559	487	497	13.0	13.0	

DATE SHIPPED 02/04/2018

Chemistry (Actual)

PART NUMBER

WT. SHIPPED

4260,000 LB

750616

SI FE CU MN MG CR ZN TI ZR Core 0.07 0.14 1.48 0.03 2.56 0.21 5.46 0.03 0.00

B/L NUMBER

94221

NO. OF PIECES

OTHERS-EACH: .05 MAX. OTHERS TOTAL: .15 MAX. AL REMAINDER

All material contained in this lot was cast and manufactured in the USA

QUALITY TEXTS: AMC CA-15403A R 7



THIS TEST REPORT SHALL NOT BE REPRODUCED EXCEPT IN FULL, WITHOUT THE WRITTEN APPROVAL OF THE LABORATORY OR AUTHORIZED QUALITY DELEGATE. THE RECORDING OF FALSE, FICTITIOUS, OR FRAUDULENT STATEMENTS OR ENTRIES ON THE CERTIFICATE MAY BE PUNISHED AS A FELONY UNDER FEDERAL LAW.

CHEMISTRY BY OES: ARKSPARK CHEMISTRIES REPORTED IN PERCENTAGE BY WEIGHT

WHEN FRACTURE TOUGHNESS TEST REQUIRED, TESTED PER ASTM E399

WHEN TENSILE TEST REQUIRED, TESTED PER ASTM EB: B557

DUNS Number: 090570149; CAGE Code: 1YWL9

Mercury is not a normal contaminant in aluminum alloys and neither mercury nor any of its compounds were utilized in the manufacture of our product.

"END OF CERTIFICATION"

P-860-155D REVISED: 01 2018

SPECIFICATION CONTROL DRAWING

0

PURCHASE MATERIAL 7076 T6/T62 (651) ALUMINUM SHEET OR PLATE **8** 

QQ-A-250/12 OR AMS-QQ-A-250/12 OR AMS 4045 OR ASTM B209

PURCHASE MATERIAL: 7075-T6/T62/T651 ALCLAD ALUMINUM SHEET OR PLATE (8)

SPECIFICATION:

OQ-A-250/13 OR AMS-OQ-A-250/13 OR AMS 4048 / 4049 OR ASTM B209

M7075T6S TTT X W.WWW THK WIDTH

PART NUMBER:

(B)

1

U

WHERE ", TTT" = THICKNESS (IN INCHES)
AND "W, WWW" = WIDTH (IN INCHES, OPTIONAL, FOR SPECIFYING CUT PLATE)

EG. 0.063" THICK SHEET = M7075T6S.063 EG. 3.5" WIDE BY 0.500" THICK PLATE = M7075T6S.500X3.500

TITT BY 4FT DY 10FT FOR SHEET A PREFERRED SIZE:

17.05.05 10.11.08 DATE RF DART AEROSPACE LTD
CP HAWKESBURY, ONTARIO, CANADA
ML M7075T6S SHEET 10
WMM TITLE SCA
DS-MC TO75-TG SHEET/PLATE SPEC N CB BY RF B ADD: REF TO "PLATE" TEST TEMPER, AMS 4048, OPTIONAL WIDTH DIM (CAR16-149) NEW ISSUE DESIGN REV.

SHEET 1 OF 1

CO2019 BY DARY AEROSPACE LTD

17.05.05

DE APPR.

MFG, APPR. APPROVED CHECKED

2017 JUN 19 47 MELEASED

DRAWN **APPROVED** 

U

8

SPECIFICATION:

۵

# MATERIAL RECEIPT INSPECTION FORM

MATERIAL: <u>M 707</u> DATE: (8/07/	516	57.	00042,000		P	O / BATCH	NO.: <u>Poo4</u>	242
DATE: (8/37/	09							
MATERIAL CERT REC'D:				Т	HICKNE	SS ORDE	RED: 2"	
QUANTITY RECEIVED: 62,51				Т	HICKNE	SS RECEI	VED: 2"	
QUANTITY INSPECTED: 62.5							RED:	
							VED:	
QUANTITY REJECTED:				5	HEE! S	IZE RECEI	VED	
	NC	R						
DESCRIPTION	(Che				(	COMMEN	TS	
	Y/I							
SURFACE DAMAGE		(N)						
CORRECT FINISH	(1)	Ν						
CORROSION								
CORRECT GRAIN DIRECTION	8	N						
CORRECT MATERIAL PER M-DRAWING	(A)	N	AMS-	20-A	-2501	12		
CORRECT THICKNESS	(A)	Ν						
PHOTO REQUIRED	Υ	(N)						
CORRECT REF # TO LINK CERT	Y	N	41:7	36980 A	3	9410	428	
CORRECT MATERIAL IDENTFICATION		N						
CORRECT M# ON THE MATERIAL	M	Ν						
DOES THIS MATERIAL REQUIRE	Y	B						
ENGINEERING SIGN OFF	1	(a)						
DOES THIS REQUIRE AN EXTRUSION REPORT	Y	N						
		)						
CUT SAMPLE PIECE	= OF	MA	TERIAL AN	D PREE	ORM A	HARDNE	SS CHECK	
001 0/101 221 1201			ORD RESU			111111111111	.00 0112011.	
			HRC	HRB		DUR A	DUR D	WEBSTER
TYPE OF MATERIAL	1			, , , ,				
SIZE OF TEST SAMPLE	ŀ				-			
HARDNESS / DUROMETER READI	NG							
IANDINESS / DONOMIL TEN NEADI		etero	located in th	e Quality	Office		L	
	10	31613	roomed in th	o aguanty	0.1100			

QC 18 INSPECTION			ENGINEERING SIGNOFF (if required)
INSPECTED BY:	Ar	38	SIGNED OFF BY:
DATE:	18/07/09	9-05	DATE:

Attach this inspection sheet with the corresponding material cert and remit to be scanned and received in